Chapter XV: Downtime Procedures

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Backup Processes for Unavailability of Electronic Clinical Systems

Purpose

The purpose of the policy is to maintain the integrity of clinical and research information and processes and to insure the continuation of clinical care and research studies during the absence of available electronic/automated clinical systems.

Background

The prevention, early detection and effective management of a scheduled or unscheduled CRIS down event are critical to assuring quality patient care at the Clinical Center (CC). To manage these events effectively, the Department of Clinical Research Informatics (DCRI) must identify the various roles and responsibilities both DCRI and The Department of Network Applications (DNA) have in maintaining CRIS, MIS and Ancillary Systems. While DNA is responsible for providing the hardware and network infrastructure, DCRI is responsible for maintaining the CRIS and MIS Systems. Scheduled System downs require coordination between multiple departments and people, when possible the CRIS and MIS System down will occur at the same time. Provided in the guidelines below are: a checklist for planning scheduled system downs, description of the systems that define CRIS and MIS, and the description of the systems affected by CRIS and MIS Downs.

Policy

Clinical and research information management will be maintained with a backup manual process when electronic systems and information are not available. Defined procedures and guidelines will be followed. Involved informatics and technical staff will coordinate communications with each other, with clinical users and with administrators as required.

Attachments

Policy Guidelines
Appendix A System Descriptions, Impact During CRIS Downs, & Assigned Responsibilities
Appendix B System Descriptions, Impact During MIS Downs, & Assigned Responsibilities
Appendix C Organizational Role & Assigned Responsibilities
Appendix D Flyers- CRIS Down & MIS Down / List of Manual Forms to Use for Documentation
Appendix E Nursing and Patient Care Related Guidelines For Scheduled Down

References:
DNA Disaster Recovery Plan: located in the Data Center Operations Department, room B1N243.

Approved: _____
Stephen Rosenfeld, MD, MBA
Chief, Dept. of Clinical Research Informatics

Implemented: 6/01
Revised: 10/03; 11/03; 07/04; 8/04

Guidelines

Backup Processes for Unavailability of Electronic Clinical Systems

1.0 Scheduled System Downs -No User Access to CRIS Core & No Printouts.

There are no scheduled down times for systems. When they occur, they are related to maintenance upgrades and/ or system problem solving. The down time procedures are defined in the following section according to roles. The procedure is also defined in section 3.0.

1.1 Down Preparation- Clarification of Roles

A. The Chief of Networking and Server Support and /or the Clinical Systems Architect utilizing DCRI and/ or DNA staff will coordinate time with the following people (See Appendix C for organizational assignments) based on the reason for the system down:

DNA
- Team Leader of Computer Operators

DCRI
- Interface Administrator
- Ancillary System Administrator
- Operational System Lead
- Hospital System Database Manager
- Triage Analyst
- DCRI Clinical System Architect

Diagnostic Radiology Department- Imaging Science Division
- Radiology Information System Administrator

DLM
- Lab Manager
- Lab Information System Administrator
- Back-up Administrator

DTM
- Lab Information System Administrator
- Quality Assurance Specialist
- Transfusion Services Supervisor

Nursing and Patient Care Services (NPCS)
- NPCS Chief
- NPCS Service Chiefs
- NPCS Quality Officer

(Note: Refer to Appendix C for individual's name for the roles listed above)

Nutrition
- Chief Nutrition Department
- Chief of Clinical Nutrition Services
- Assistant Chief of Food Services

Pharmacy
- Deputy Chief
- Pharmacy Liaison

DCRI Interface Administrator and Ancillary System Administrator will notify the Ancillary Departments that utilize interfaces of the proposed time by phone call and then send an email to the IE Notification Email List identifying the date, time and reason for the scheduled down.

B. DCRI Triage Analyst will notify the following people of the down time, utilizing flyers and email:
   - Departmental staff listed above in section 1.1A (reference Appendix C for staff's role and name)
   - Clinical Center Nursing Staff (via the CC- NURS Staff list serv)

   Triage Analyst Role

   The procedures during the down time are the same whether or not there is less than or greater than 24 hr notification. The communication with users differs as described below.
   24 hour advanced notice, during a regular working week, can be communicated by having the Triage Analyst distribute flyers to the Nurse Managers' mailboxes and email the CC nursing staff via the CC-NURS Staff list serv. A sufficient quantity of flyers must be provided to the Nurse Managers, as the managers may cover more than one inpatient unit and/ or clinic (See Appendix D & E for sample flyers and nursing guideline packet).

   Less than 24 hour advanced notice, during a regular working week, requires the Triage Analyst to email the CC nursing staff via the CC-NURS Staff list serv and distribute flyers, in person, to all units and clinics. During evenings, nights, holidays and weekends, the Nursing

Administrative Coordinator will be contacted as appropriate, via the page operator.

Nurse Manager Mailboxes are located in the following locations:
- 7D nursing corridor - Critical Acute Patient Care Services
- 7D nursing corridor - Adult Pediatric Behavioral Health Services
- 1C243- Ambulatory Care Services (12 clinics)

Refer to the Nursing & Patient Care Services Organizational Chart as a resource when distributing flyers to the nurse managers. It can be found at the following URL link:
http://www.cc.nih.gov/nursing/whoweare/orgchart.html

C. DCRI Operational System Lead will instruct CRIS Analyst to put message on the Hospital Services Screen at least 2 days before scheduled down and ensure that CRIS Analyst On-Call is notified.

D. CRIS Analyst On-Call or designee will create an announcement and provide wording and time of system down to DNA's Team Leader of Computer Operators. He/She will also send wording that will be placed on the Hospital Services Screen to the Chief, Networking, Server Support, DCRI Clinical System Architect and Chief, Application Development Section.

E. Chief, Networking and Server Support will send an email to the CC Systems Notifications Email List.

2.0 Schedule System Downs -No Interface Transactions

There are no scheduled maintenance down times. They occur as needed. The best times to perform these needed maintenance activities requiring down time are negotiated with the affected departments. This is defined in section 2.1.

2.1 Communication of Down Time

A. DNA Team Leader of Computer Operators or designee to have Operators overhead page CRIS down 30 minutes before down and at time of down.
B. DNA Team Leader of Computer Operators or designee to have Operators overhead page CRIS is up upon completion of work.

2.2 Time Coordination

Communication between the DCRI Interface Administrator and the Ancillary System Administrator will occur when selecting/ coordinating the scheduled down time. Best Times are:

- DLM 1pm – 3 pm, 1am-3am
- DTM 1am-3am
- DRD prefers after 4pm
- Nursing - prefers 1am; however, during business hours weekdays and weekends, the least disruptive time would be 11am or 4pm.
- Nutrition 1am-3am
- Pharmacy- need to address each down time on a case by case basis
- All Departments 6:30 pm – 8:00 pm

2.3 Notification To Ancillary Departments Of Proposed Down Time

A. DCRI Interface Administrator and Ancillary System Administrator will notify the Ancillary Departments that utilize interfaces of the proposed time through the following means:
   - Phone call
   - E-mail to the IE Notification Email List identifying the date, time and reason for the scheduled down.

B. Individual Departments will need to determine if they need to call stat results and if they need to follow their own Interface Down Procedures and go manual.

C. Refer to Appendix E for the affects of down time on clinical departments interactions with patient care units.

3.0 Conversion to Use of Manual Documentation and Communication Forms for Prolonged CRIS Down

If the CRIS is down for a prolonged period of time, DCRI will communicate this information to the Chief, Nursing and Patient Care Services or her Designee, to determine the strategy for initiating the manual procedure.

Guidelines and manual forms, for ordering and documenting, are available on every inpatient unit and clinic. The nurse managers for the inpatient units and clinic are responsible for keeping the forms updated and in stock. DLM and DTM will be notified by Ancillary System Administrator and/ or the Interface Administrator to accept paper request and call stat results.

Planned prolonged down will be communicated via a flyer from the Triage Analyst. The flyer states the reason and approximate time duration of the planned down. Unplanned down will be communicated by the on call Operational Support Staff.

Manual ordering and documentation forms can be accessed from Medical Records
Monday- Friday 8:30 AM- 5:30 PM.

The following forms (Medical Record) are to be used for manual ordering and documentation:

- Ancillary Tests- imaging services/ecg/ dental (NIH- 2353-3)
- Doctor's Orders/ Medical records (STANDARD FORM 508)
- Clinical Laboratory Ordering Record (NIH- 2353-1)
- Inpatient Progress Notes- (NIH-509 or STANDARD FORM 509)
- Outpatient Progress Notes (NIH-532-1)
- Nursing Notes- to be used for inpatients only (STANDARD FORM 510)

Specimen Labels
Labels used during the down time must include the patient's name, medical record number and date of birth. There are three types of labels:

- CRIS lab labels (if available), are to be used to label any specimens being sent to the lab. These labels include bar coding on them. The coding has a unique identifier of what test needs to be done and is read by the lab system.
- Admission labels (no bar code) – are to be used if there are no CRIS lab labels. These are preprinted with the required patient information.
- Handwritten labels are to be used if admission labels are not available.

4.0 MIS System Downs

MIS is used for Admission Discharge Transfer (ADT) and Clinical Appointment System (CAS) transactions. MIS will send ADT patient information over to CRIS. CAS is the CC appointment scheduling system and will not send information over to CRIS. When possible the CRIS and MIS System down will occur at the same time.

4.1 CRIS Impact when the MIS System is down and CRIS is operational

A. **Any Inpatient Admission**
MIS will not send patient admission information to CRIS as the transaction is interfaced from MIS to CRIS. Admitting a patient must first be initiated through the ADT system before a visit can be created in CRIS. Preadmit orders in CRIS should not be released until the MIS system is operational and the inpatient visit has been created.

New orders and/or documentation entered while MIS is down need to follow the procedures for manual entry until the CRIS system and MIS system are both operational (See 3.0 Conversion to Use of Manual Documentation and Communication Forms for Prolonged CRIS Down).

B. **Transfer to another location in the hospital**
The Patient's location will not change in CRIS. The patient can physically transfer to another unit for care; however, the order requisitions and labels will continue to print in the patient's location identified in CRIS prior to MIS going down. Staff will need to communicate with the new location and forward order requisitions and labels accordingly.

C. **Visit Type**
If the patient is discharged while the MIS system is down the current inpatient visit will not change to an outpatient visit until MIS is operational. If the patient goes on pass while the MIS system is down the current inpatient visit will not change to a leave of absence until MIS is operational.

5.0 Unscheduled System Downs

5.1 Down Initiation

DNA Computer Operation staff follows the defined Disaster Recovery Plan which can be found in the Data Center Operations Department located in room B1N243 for emergency and/or unexpected downs. The DNA contact is the Team Leader of Computer Operators.

5.2 Communication of Down Time

A. Depending on the source that identifies the problem, communication of the down is initiated either through DNA Computer Operation staff

contacting DCRI or DCRI contacting Computer Operation staff. These individuals make the decision whether or not users need to be notified.

B. DNA Team Leader of Computer Operators or designee will have the NIH Page Operators overhead page CRIS down.

C. Involved departments are notified specifically by DCRI or DNA. Judgment is used in contacting other affected departments, based on the situation of the down time.

D. When CRIS is operational, the DNA Team Leader of Computer Operators or designee will notify the NIH Page Operators to overhead page that CRIS is available for use.

E. DNA Team Leader of Computer Operators or designee sends an email to the IE Notification Email List identifying the reason for the unscheduled down, time the system went down and when it came back. A team of DNA technicians will visit every patient care unit to make sure the central processing unit (CPU) are fully operational following both planned and unplanned down times during business hours. During the evening tour, on weekends and holidays the DNA team will call the patient care units to confirm that the CPU's are operational.

F. DCRI On-Call Operational System Staff will contact and update the Chief, Nursing and Patient Care Services or Designee of the down status of greater than 15 minutes. Note: During evening, nights, holidays and weekends the designee is the Administrative Coordinator.

5.3 Conversion to Use of Manual Documentation and Communication Forms For Prolonged CRIS Down

A. Refer to Section 3.0 for use of manual documentation and communication forms as the same interventions will occur for an unplanned prolonged down.
B. Extended unscheduled downs require initiation of the DNA defined Disaster Recovery Plan which can be found in the Data Center Operations Department located in room B1N243.

6.0 System Descriptions, Responsible Parties and Customer Impact

CRIS and MIS System Components: Equipment and Network That Comprise CRIS and MIS.

The following tables reflect the impact on system components or servers when the CRIS or MIS system is not operational

Appendix A – The following table reflects the impact on the various system components and/ or servers if the CRIS Core and/ or MIS system is not operational. Also included are the Departments and individuals responsible for the various system components or servers.

Appendix B - The following table reflects the impact on the various ancillary clinical systems if the CRIS Core and/ or MIS System is not operational. Also included are the Departments and individuals responsible for the various system components or servers.

Appendix C – This lists the designated person and contact information for specific roles and responsibilities

Appendix A
Impact on the CRIS Core and/or the MIS System when System Components or Servers are down.

Legend:

Component Name	Name of System Component
Description	Description of the function that the system component provides in respect to the CRIS Core and MIS systems.
Firewall Location	Location of component in relation to the CC Checkpoint Firewall (Escher). Behind mean that the system component is protected from access by rules on the firewall.
Impact On CRIS Core	The affect a down of the System Component on has to the CRIS Core System.
Impact On MIS	The affect a down of the System Component on the MIS System
Responsible Party	The persons whom should be notified when the system component is down.

Component Name	Description	Firewall Location	When Component is Down Impact On CRIS Core	Impact On MIS	Responsible Party
CC Checkpoint Firewall (Protects Clinical Data)	Maintains Security	N/A	No User Access to CRIS Core. No printing from CRIS Core. No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA Tadele Yenegeta Chris Klein
CC Domain Controllers	SCM MSQM is installed on the Domain Controllers and is used by the interfaces to send and receive messages.	In front if NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	N/A	DNA and DCRI Dempsey Dunn Tony Barnes Jon McKeeby
CC Network PIX Firewall	Main CC Network.	N/A	No User Access to CRIS Core. No printing from CRIS Core. No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA Joyce Yarington Kelly Neadow Jason Chan
CCAXPENT	Enterprise	Behind NIH/CC Checkpoint Firewall	No Administration Configuration changes to SCM or Installation of New Clients.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCSCMDMUL	SCM Multum Server	Behind NIH/CC Checkpoint Firewall	Loss of drug interaction checking for CRIS Core users.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPCDS	SCM CDS/Order Generation	Behind NIH/CC Checkpoint Firewall	Repeat orders will not get created for CRIS Core orders.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPEXE	SCM HL7 Executive	Behind NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT,	N/A	DNA and DCRI Dempsey Dunn Tony Barnes Jon McKeeby

Component Name	Description	Firewall Location	When Component is Down Impact On CRIS Core Impact On MIS		Responsible Party
			Results, Statuses.		
CCXAPMGR	SCM HL7 Manager	Behind NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	N/A	DNA and DCRI Dempsey Dunn Tony Barnes Jon McKeeby
CCXAPMST1	Master	Behind NIH/CC Checkpoint Firewall	No Access To CRIS SCM.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPMST2	Master Server	Behind NIH/CC Checkpoint Firewall	No Access To CRIS SCM.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPPRT1	SCM Print Servers	Behind NIH/CC Checkpoint Firewall	No printing from CRIS Core.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPPRT2	SCM Print Servers	Behind NIH/CC Checkpoint Firewall	No printing from CRIS Core.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPRPT	SCM Report	Behind NIH/CC Checkpoint Firewall	No Printing of Reports.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPVOCAB	SCM Vocabulary Manager	Behind NIH/CC Checkpoint Firewall	Loss of the ability to process MLM which are rules which check for drug interactions upon the entry of orders.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CITRIX	Client access for CRIS	N/A	No User Access via CITRIX. Possible thru SCD clients.	Client access for Web/MIS. No ADT/CAS User Access.	DNA Doug Butters Mark Bradley
CRIS-SAN	SCM Storage	Behind NIH/CC Checkpoint Firewall	No patient data available from CRIS Core. All CRIS Core System Functions may be affected.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
Degas	MIS Print Server and	Behind NIH/CC	N/A	No ADT/CAS MIS Printouts.	DNA and DCRI Tadele Yenegeta

Component Name	Description	Firewall Location	When Component is Down Impact On CRIS Core	Impact On MIS	Responsible Party
	MIS Interface Server	Checkpoint Firewall		No ADT/CAS Transactions: All Ancillary Systems-CRIS Core, RIS, LIS, SoftMed, Wristband.	Chris Klein Steve Moore
IBM 3172	Token Ring Access TCP/IP access to Rose	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions. No FTP to/ from ROSE.	DNA and DCRI DNA Operations Myoung Lee Tim Maloney
IE	Interface Engine Server	Behind NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS Interface Transactions: All Ancillary Systems.	DNA and DCRI Tadele Yenegeta Chris Klein Tony Barnes Jon McKeeby
IE Care Data	Interface Engine Application	Behind NIH/CC Checkpoint Firewall	N/A	No ADT Interface Transactions. CDW, Wristband, PYXIS.	DCRI Tony Barnes Jon McKeeby
IE CloverLeaf	Interface Engine Application	Behind NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS Interface Transactions: All Ancillary Systems.	DCRI Tony Barnes Jon McKeeby
Lizzy IBM 390	Backup Down Mainframe for MIS At CIT	Behind NIH/CC Checkpoint Firewall	N/A	Backup MIS ADT/CAS Down	DNA Pam Carter Tim Maloney
Mac/MIS	MIS Client for MAC	N/A	N/A	No ADT/CAS User Access via Web/MIS.	DCRI Jose Miletti
MIS Application	Mainframe for MIS	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts.	DCRI Tim Maloney

Component Name	Description	Firewall Location	When Component is Down Impact On CRIS Core	Impact On MIS	Responsible Party
				No ADT/CAS Interface Transactions.	
Monet	Domain Name Server used within CC	In front if NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS for users using Monet as name server: Majority ADT/CAS users.	DNA Tadele Yenegeta Chris Klein
Open Connect Application	Talks SNA to TCP/IP to control MIS Access, MIS Printing and MIS Interfaces.	Loaded on Zeus and Degas	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA and DCRI Tadele Yenegeta Chris Klein Myoung Lee Tim Maloney
Operation Client Terminals	Used by operators to monitor and maintain MIS	In front if NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access by operators. Users can use different terminal.	DNA Bertram Brown
Rose IBM 390	Mainframe for MIS	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA and DCRI Pam Carter Tim Maloney
SCD	Standard Clinical Desktop	N/A	No User Access via Standard Clinical Desktop: Majority of users.	No ADT/CAS User Access via Standard Clinical Desktop. Majority of users.	DNA Bertram Brown
Secure ID	Security Authorization System	In front if NIH/CC Checkpoint Firewall	N/A	No MIS user access to unregistered workstations.	DNA and DCRI Tadele Yenegeta Chris Klein Jose Miletti

Component Name	Description	Firewall Location	When Component is Down Impact On CRIS Core	Impact On MIS	Responsible Party
				No access by support users on-call. No access by operators to interface monitor and control programs on I.E. and Degas.	
SunRay Clients	Client access for CRIS	N/A	No CRIS Core User Access via Sunray. Possible thru CITRIX.	No ADT/CAS Access to MIS User Access via Sunray. Possible thru CITRIX.	DNA Tadele Yenegeta Chris Klein
Token Ring Network (MAU and Nodes)	MIS System Control and	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS Access to MIS:. No ADT/CAS MIS Printouts.	DNA and DCRI DNA Operations Myoung Lee Tim Maloney
Web/MIS	MIS Client for Web	N/A	N/A	No ADT/CAS User Access via Web/MIS.	DCRI Jose Miletti
Zeus	Web MIS Server and MIS User Access Server	In front if NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access via Web/MIS or Mac/MIS.	DNA and DCRI Tadele Yenegeta Chris Klein Steve Moore

Appendix B
Impact on Ancillary Systems when the CRIS Core and/or the MIS System are Not Operational.

Legend:

Ancillary System	**Name of System Component**
Description	**Description of function that the Ancillary System provides.**
Impact When CRIS Core is Down	**The affect to the Ancillary System when CRIS Core is down.**
Impact When MIS is Down	**The affect to the Ancillary System when MIS is down.**
Responsible Party	**The persons whom should be notified when the Ancillary system is down.**

Ancillary System	Description	Impact When CRIS Core is Down	Impact When MIS is Down	Responsible Party
CDW	Clinical Data Warehouse – Sybase databases common, cllab, cdr_new	Orders from CRIS and results from Ancillary Systems are not loaded into CDR.	Admissions, transfers and discharges(ADT) transactions from MIS are not loaded into CDR.	DNA and DCRI Tadele Yenegeta Chris Klein Jon McKeeby
RIS	Radiology Information System	Orders are not sent from CRIS and results are not sent to CRIS.	ADT transactions are not sent from MIS.	Harvey McDonald
LIS (Micro, Lab, Blood Bank, Anatomic Pathology)	Laboratory Information System	Orders are not sent from CRIS and results are not sent to CRIS.	ADT transactions are not sent from MIS.	Earle Barnes Tony Barnes Chung-Hee Row Kathy Roden Boyd Conley
EKG	EKG System	Orders are not sent from CRIS and results are not sent to CRIS.		DNA and DCRI Barrett Grieb Tony Barnes
SoftMed	Transcription System	Orders are not sent from CRIS and results are not sent to CRIS.	ADT transactions are not sent from MIS.	DNA and DCRI Barrett Grieb Tony Barnes Jon McKeeby
CBORD	Nutrition System	Allergies and Orders are not sent from CRIS to	ADT transactions are not sent from MIS.	DNA and DCRI Dempsey

Ancillary System	Description	Impact When CRIS Core is Down	Impact When MIS is Down	Responsible Party
		CBORD.		Dunn Jim Oseth Tony Barnes Jon McKeeby
MIS	ADT/CAS	ADT transactions from MIS are not sent to CRIS. ADT transactions are not received from CRIS.		DNA and DCRI DNA Operations Tony Barnes Jon McKeeby
PYXIS	Pharmacy Dispensing System		ADT transactions are not sent from MIS.	DCRI Tony Barnes
WristBand/Emboser	WristBand Creation		ADT transactions are not sent from MIS.	DCRI Jon McKeeby
CRIS Core	Order Entry Documentation and Retrieval system		ADT transactions are not received from MIS. ADT transactions from SCM are not sent to MIS.	DNA and DCRI DNA Operations Tony Barnes Jon McKeeby

Appendix C: Organizational Role & Assigned Responsibilities

Clinical Pathology
Pathology LIS Administrator NCI/ NIH- Earle Barnes – (301) 496-0551

Department of Clinical Research Informatics
Ancillary System Administrator - Tim Fink – (301) 435-8370
Clinical System Architect – Jon McKeeby, D.Sc. – (301) 496-3826
Hospital System Database Manager - Tim Maloney – (301) 496-6976
Hospital System Database Manager - Myoung Lee - (301) 496-6857
Interface Administrator - Tony Barnes – (301) 496-4285
Operational System Lead- Melanie Retzke – (301) 496-6576
Operational System Analyst- Myoung Lee – (301) 496-6857
Nurse Consultant- Jose Miletti – (301) 496-3827
Senior Architect Developer- Steve Moore – (301) 496-8651
System Coordinator- Tom Dawson – (301) 594-9887
Triage Analysts- Rubi Defensor – (301) 435-8516
Triage Analysts- Susy Postal – (301) 594-9468

Department of Network Application
Casper Administrator – Doug Butters – (301) 496-7891
Casper Administrator – Mark Bradley – (301) 451-4682
Chief, Application Development Section – James (Jim) Pitts – (301) 496-7436
Chief, Networking and Server Support - Joyce Yarington – (301) 594-7801
Chief, User Support Section- Bertram Brown – (301) 594-7802
Database Administrator – Jim Oseth – (301) 496-7905
Operation Manager- John Franco – (301) 496-6745
Network Engineer – Jason Chan - (301) 496-8652
Network Engineer - Kelly Neadow – (301) 496-8652
Team Leader of Computer Operators- Pam Carter – (301) 496-3844
Team Leader of Systems Administration - Dempsey Dunn – (301) 496-4712
Systems Administrator – Barrett Grieb - (301) 347-1431
UNIX System Administrator- Chris Klein – (301) 402-0974
UNIX System Administrator- Tadele Yenegeta – (301) 496-9243

Department of Laboratory Medicine
Back-up Administrator- Chung-Hee Row – (301) 496-3386
Lab Manager- Peggy Spina – (301) 496-5668
Lab Information System Administrator-Kathy Roden – (301) 402-0584

Department of Transfusion Medicine
Lab Information System Administrator- Boyd Conley – (301) 496-4506
Quality Assurance Specialist- James (Wade) Atkins – (301) 496-4506

Transfusion Services Supervisor- Sherry Sheldon – (301) 496-8335

Diagnostic Radiology Department- Imaging Sciences Division
Radiology Information System Administrator-Harvey McDonald - (301) 435-5269

Nursing and Patient Care Services (NPCS)
Chief, Nursing and Patient Care Services- Clare Hastings – (301) 435-3489
Refer to Organizational Chart for individual's name for the roles listed below:
Chief, Ambulatory Care Services- Karen Kaczorowski – (301) 496-2341
Chief, Critical and Acute Care Services- Laura Chisholm – (301) 496-2987
Chief, Adult, Pediatrics and Behavioral Health- Tannia Cartledge – (301) 496-4623
NPCS Quality Officer- Virginia (Ginnie) Daine- (301) 435-6196
Nurse Managers
Nursing Administrative Coordinator
The Organizational chart's URL link is:
http://www.cc.nih.gov/nursing/whoweare/orgchart.html

Nutrition
Chief, Nutrition Department- Dave Folio – (301) 496-4981
Chief, Clinical Nutrition Services- Madeline Michael – (301) 496-3312
Assistant Chief of Food Services- Jennifer Widger – (301) 496-4981

Pharmacy Department
Deputy Chief- Robert DeChristoforo – (301) 496-4363
Pharmacy Liaison- Charles Daniels (Organizational role- Chief, Pharmacy Department)
(301) 496-4363

Appendix D: Example of an CRIS Down time Flyer / List of Manual Forms To Use For Documentation

INTERMITTENT CRIS DOWN (UP TO 4 HOURS)

All Systems (CRIS, Ancillary Systems, The Internet & Intranet) within the Cl inical Center Data Center will experience intermittent down periods.

Purpose: Emergency Security Maintenance
When: Saturday, September 11, 2004 - Sunday, September 12, 2004
Time: 11:59 P.M – 4:00 A.M.

The duration of the Down Time is undetermined; however, the maxi mum down period could last up to 4 hours. Please see the attachment for the approximate time your area will experience the down.

- You can **not** enter orders, document, print or retrieve information during th is down time.
- Systems such as: RIS, LIS, ECG, PACS, CITRIX, PYXIS, Dictation/ Transcription & more will be unavailable.
- Please do not send **non-emergent orders** on the manual ordering forms during the down period.
- Please wait and enter **non-emergent orders** in CRIS after CRIS becomes operational.

Emergent Lab Order, Please Follow This Procedure:

1. Send the specimen to the lab with A manual Clinical Laboratory O rdering Record Form Or CRIS generated transmittal sheet, if avai lable.
2. Do Not enter Emergency Orders into CRIS. The Lab will enter the orders on their end.
3. Keep a written record of the results called back to the unit.

All Other **Emergent** Orders Follow The Defined Manual Ordering Process By Service
(Pharmacy, Imaging Services, Transfusion Medicine, Respiratory Ca re, Nutrition And All Other Clinical Services)

Please use the following forms to manually order or document:

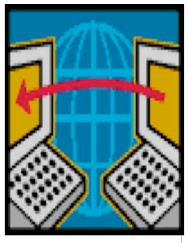
- Ancillary Tests - Imaging Services/ECG/ Dental (NIH - 2353 -3)
- Medical Records/ Doctor's Orders (SF508)
- Clinical Laboratory Ordering Record (NIH 2353 -1)
- Inpatient Progress Notes (SF - 509)
- Outpatient Progress Notes (NIH -532)

You Will Need To Call Departments To Communicate The Orders And Obtain Service.

Thanks For Your Cooperation And Patience!

Appendix D: Example of a MIS Down time Flyer

1 HOUR MIS DOWN (ADT/CAS)



Transactions involving the Admission Discharge Transfer (ADT) an d the Clinical Appointment System (CAS) will be down during this time.

Purpose: Emergency Security Maintenance
When: Sunday, September 12, 2004
Time: 1:00 A.M – 2:00 A.M.

For a patient NOT in the CRIS System:
If **Emergent** Lab Order are needed follow this procedure:

1. Send the specimen to the lab with a manual Clinical Laboratory O rdering Record Form Or CRIS generated order requisition, if available.
2. Do Not enter Emergency Orders into CRIS. The Lab will enter the orders on their end.
3. Keep a written record of the results called back to the unit.

Follow The Defined Manual Ordering Process By Service For All Ot her **Emergent** Orders
(Pharmacy, Imaging Services, Transfusion Medicine, Respiratory Ca re, Nutrition And All Other Clinical Services)
Please use the following forms to manually order or document:

- Ancillary Tests - Imaging Services/ECG/ Dental (NIH - 2353 - 3)
- Medical Records/ Doctor's Orders (SF508)
- Clinical Laboratory Ordering Record (NIH 2353 -1)
- Inpatient Progress Notes (SF - 509)
- Outpatient Progress Notes (NIH -532)

For a patient IN the CRIS system: who is being transferred to an new location.

1. Orders and labels will continue to print in the patient's CRIS l ocation prior to MIS going down.
2. Send labels and orders to the new location until MIS is operatio nal and the transfer is sent from MIS to CRIS.

You Will Need To Call Departments To Communicate The Orders And Obtain Service.

Thanks For Your Cooperation And Patience!

Appendix E: Nursing and Patient Care Related Guidelines For Scheduled Down
CC Computer Shut Down for Emergency Maintenance
Insert Date at __:__ p.m. – __:__ a.m.

All computer systems (CRIS, ancillary systems, internet, and intranet) within the CC Data Center will experience intermittent down periods beginning **Date** @ **__: p.m**. through **Date** @ **__:__ a.m**.
Here are some tips to help you prepare for this planned outage.

Communication During Computer Down-Time

1. Prior to the system going down, the Page Operator will announce the actual shutdown time and, will also make an announcement when CRIS has returned back to functioning capacity. The leadership staff will follow-up with a phone call to each PCU to verify the CRIS is working.
2. All attempts should be made to enter information into CRIS prior to **Date** @ **:__ p.m**. including nursing assessments and medication administration.
3. Please request physicians to enter new patient orders into CRIS prior to **Date** @ **__:__ p.m**
4. All communication will be conducted using the telephone or the Pneumatic Tube Stations.
5. Messenger and Escort will make hourly rounds to DLM to pick up and deliver lab results to PCU's.
6. Medical Record Documentation
   a. ALL required forms will be on each PCU in a designated "COMPUTER SHUT-DOWN AREA." The forms include:
      - Doctor's Orders (Standard Form 508)
      - Clinical Laboratory Ordering Record NIH-2353-1 (05-04 or most current version)
      - Orders Manual: Ancillary Tests NIH-2353-3 (6-03)
      - Two (2) DLM Report Logs for recording lab results phoned to the PCU
        1. Clinical Chemistry Service Stat Report Log
        2. Hematology Service Stat Report Log
      - Inpatient Progress Notes (NIH-509 or STANDARD FORM 509)
      - Nursing Notes (Standard Form 510)
      - Instructions for Manual Input into Pyxis Medstation

MD Orders

1. After the computer system is shut down, all medical orders will need to be written on "Doctor's Orders" (Standard Form 508) and signed and dated by the RN after they are read. Each set of written, verbal or telephone orders will require a date/time and the signature of the Licensed Independent Practitioner (LIP). If transcription is needed, the registered

nurse will need to date/time and sign his/her signature at the bottom of the order set.

2. Each time an LIP writes a new medical order, a new order sheet must be used. The copies of the medical orders are sent to multiple departments such as sending copies to pharmacy and nutrition.
3. All lab orders requested during the computer shut down will be transcribed onto the Clinical Laboratory Ordering Record NIH-2353-1 (05-04 or most current version) by a prescriber or his/her authorized agent. At the bottom of this form, the RN transcribing the order will note under the LIP name whether this was a written, verbal, or telephone order.
4. Save all MCP's and all Doctor's Order sheets after the MCP has printed.
5. Attach all Doctor's Order sheets with current the MCP to facilitate entering orders into CRIS once the system has returned.
6. When the CRIS system comes back up, check all written lab results with the printed copy to validate accuracy.

Nursing Documentation

1. During the down-time, use the Nursing Progress Report (Standard Form 510) for documenting patient assessments, etc.

Return of CRIS

1. When the CRIS comes back up:
    a. An LIP or a registered nurse will enter all written, verbal, and telephone orders into CRIS, except emergency lab orders as they will be entered by DLM.
    b. A nurse will:
        i. Request a new Medical Care Plan (MCP) to validate the accuracy of all medical orders entered.
        ii. File the original manual copy of all order forms in the unit chart under "MD Orders."
        iii. Document all nursing admission assessments, medications, blood products into the CRIS. If CRIS is down for a short time duration and the use of manual forms has not been implemented, then assessments should be entered into the system when it comes back.
2. The oncoming nurse will be responsible for double-checking all medical orders written during the CRIS down-time period. This process involves comparing for accuracy each manual medical filed in the unit chart against the current MCP. When completed, the nurse will initial, date and time the bottom of each order set.

Pharmacy

1. The Pyxis Medstation is available during shut down.
2. Any new orders or admissions will need to be manually entered (see attached instructions).

3. A record of patients manually entered into the Pyxis Medstation will be kept in the designated shut down area. The record is to be sent to pharmacy when the system comes back up (see attached).
4. After CRIS comes back up, all written and verbal orders must be entered into CRIS by the unit RN or MD.
5. Chemo/TPN orders cannot be entered by a RN. Make sure you request physicians to order chemo/TPN before 12 Noon.
6. A printout of 24-hour use on the Pyxis will be required to send to the Pharmacy by the end of the evening shift.
7. Communication with Pharmacy will be via phone and tube systems.
8. Pharmacy will call lab for any emergency results.
9. All written orders will be tubed to the Pharmacy during the shut down. A follow-up call to Pharmacy will be required to assure that pharmacy received ***STAT orders***

Nutrition

1. Any transfers, new diet order, nutrition orders or changes to orders will need to be sent via the Pneumatic Tube System to Nutrition Services on the Standard Form 508 utilizing the above guideline for MD orders. Diet office personnel are not authorized to accept verbal orders.
2. All diet orders and transfers will be manually entered into the Nutrition Department Computer system (CBORD) by Nutrition Department personnel using the information provide on Standard Form 508.
3. After CRIS comes back up, all nutrition/diet orders must be entered into CRIS by the RN, MD or LIP.

Medical Records Department

1. If there is an emergent need for medical records, contact Admissions at (301) 496-3315.
2. All required documentation forms will be on each unit at the in a designated "Computer Shut Down Area."
3. The Administrative Coordinator on duty will have an extra supply of forms.

Department of Laboratory Medicine (DLM)

1. Please attempt to have physicians put in all requests for labs prior to the system shutting down in an effort to obtain a transmittal slip.
2. Any stat lab orders requested during the shut down will require you to send the lab specimen with a Clinical Laboratory Ordering Record NIH-2353-1 (05-04 or most recent version). No other form will be accepted. At the bottom of the order form under LIP signature, identify either written or verbal order.
3. One (1) order form per patient can be used for multiple DLM requests such as Chemistry, Hematology.
4. Apply a preprinted patient label from CRIS, admissions or a hand written label (include the patient's full name, medical record number and date of birth) on the specimen prior to sending it to the lab.

5. STAT lab results will be called to the unit by DLM. The unit RN will document the results on either the *Clinical Chemistry Service Stat Report Log* or the *Hematology Service Stat Report Log*. Forms will be distributed to PCUs prior to the shut down. The A/C on duty will have extra forms.
6. Communications with DLM will be via telephone and pneumatic tube system.
7. For specimen pickup you will need to call Messenger and Escort
8. All lab orders will be entered by the DLM. You will need to assure and validate that the orders are entered into the MCP when the system comes back up.

CHS

1. The Pyxis Supply Station may **not** be functioning during the shut down. Each unit has a key to the Pyxis Supply Station. Please note where your key is located as this is your means to obtain supplies.
2. CHS will have someone in house until the system comes back up

Imaging Sciences

The Radiology, Nuclear Medicine and PET Departments will be available for emergent test as the computer shut down will not affect their imaging equipment.

Department of Transfusion Medicine (DTM)

Orders received during the shut down will require a copy of the manual LIP order sent to the DTM. The RN will be required to call DTM to assure that the order is received. The DTM will call the nursing unit when the blood product is ready for pickup.

Adding a New Patient to Pyxis

In the event that a patient's name does not appear on the Pyxis Screen, the user will manually add the patient's full name and ID number to Pyxis Medstation.

1. From the main Menu, select Remove.
2. If the patient you want is not listed:
    a. From the Remove Meds, Return Meds, or Waste Meds screen, Press the ADD PATIENT button. The Add A Patient screen appears.
    b. Enter the patient's last name, and select Enter to go to the First Name Field.
    c. Enter the patient's first name, and select Enter to go to the patient ID field.
    d. Enter patient's medical record number.
    e. Press Accept.

Record of Patients manually added in Pyxis

Please print clearly in all documentation fields.
Please return this record to pharmacy when CRIS is in operation.

Date.	Patient Name	Unit	Medical record No.

Notes:

"Quick" Computer Shut Down Check List

☐ **Identify Computer Shut Down Area in the nurse's station**

☐ **Assure that you have the required manual forms**
- ☐ **MD order sheets (Standard Form 508)**
- ☐ **Nursing Notes (Standard Form 510)**
- ☐ **Clinical Laboratory Ordering Record (NIH-2353-1- 05-04)**
- ☐ **Chemistry and Hematology Stat report log sheet**
- ☐ **Instructions for manual input into meds pyxis**
- ☐ **Record of patients manually added in Pyxis**

☐ **Check med pyxis for access during the shut down (pharmacy for problems)**

☐ **All LIP orders have a date, time and LIP signature**

☐ **All LIP orders transcribed have RN signature, date and time**

☐ **All Lab specimens must be accompanied with a Clinical Laboratory Ordering Record (NIH-2353-1)**

☐ **When the computer system comes up the following is entered into CRIS**
- ☐ **All written/verbal LIP orders**
- ☐ **Meds, bld/bld products and admissions notes**
- ☐ **All orders entered into CRIS are verified against a new MCP**
- ☐ **All orders are double checked for accuracy by the night shift, initialed and dated**

***** Please read computer shut down packet for details**